

WHAT IS CLAIMED IS:

1 1. A system comprising:
2 a private EV-DO wireless network coupled to a public EV-DO wireless network including
3 a data location register adapted to provide private EV-DO wireless data service,
4 a relay unit adapted to relay a corresponding call connection request signal upon the call
5 connection request signal being received from a terminal entering the private EV-DO wireless
6 network;
7 a call processor adapted to generate a session information request signal with respect to the
8 corresponding terminal upon the call connection request signal relayed from the relay unit being
9 a first call connection request signal, and to process a call by assigning a traffic channel to the
10 connection terminal according to the received session information upon the session information
11 corresponding to the requested session information request signal being received; and
12 a session information processor adapted to request a session information request signal of
13 the corresponding terminal generated by the call processor to a public network data location
14 register in the public EV-DO wireless network, to store session information of the corresponding
15 terminal received from the public network data location register, and to provide the call processor
16 with the session information of the corresponding terminal.

1 2. The system according to claim 1, wherein the session information processor
2 comprises a database adapted to store the session information of the corresponding terminal
3 received from the public network data location register.

1 3. The system according to claim 1, wherein the session information of the corresponding
2 terminal received from the public network data location comprises authentication information for
3 authenticating the private EV-DO wireless network of the terminal.

1 4. The system according to claim 1, wherein the session information processor
2 comprises an authentication unit adapted to determine whether the corresponding terminal is a
3 terminal registered in the private EV-DO wireless network using the private EV-DO wireless
4 network authentication information of the terminal included in the session information of the
5 corresponding terminal received from the public network data location register.

1 5. The system according to claim 1, wherein the session information processor is
2 coupled to a data location register of the public EV-DO wireless network with a dedicated line.

1 6. The system according to claim 1, wherein the session information processor
2 provides the call processor with the session information of the corresponding terminal stored in
3 the database upon the first call being connected to the database in the session information
4 processor without requesting the session information of the corresponding terminal from the public
5 data location register of the public EV-DO wireless network upon the connected call of the
6 terminal received through the relay unit being a second or further connection call.

1 7. The system according to claim 1, wherein the relay unit comprises a temporary
2 identifier information generator adapted to add temporary identifier information to a call
3 connection request signal transmitted to the call processor upon a call of the terminal entering the
4 private EV-DO wireless network being connected, the temporary identifier information being used
5 to determine whether a corresponding call is a connection call to be connected to the public
6 EV-DO wireless network, or a connection call to be connected to the private EV-DO wireless
7 network.

1 8. The system according to claim 1, wherein the call processor comprises a routing
2 module adapted to determine whether the corresponding terminal connection call is a private
3 EV-DO wireless network connection call or a public EV-DO wireless network connection call,
4 according to the temporary identifier information included in the call connection request signal
5 transmitted from the relay unit, and to route the corresponding connection call to the private
6 EV-DO wireless network or the public EV-DO wireless network in accordance with a result of the
7 determination.

1 9. The system according to claim 1, further comprising a data packet service node
2 adapted to provide a corresponding terminal with data through an Intranet in the private EV-DO
3 wireless network through the call processor upon a traffic channel to the corresponding terminal
4 being assigned from the call processor and the call being processed.

1 10. A method comprising:

2 arranging a private EV-DO wireless network including a private base station, a private

3 control station, and a private data location register, the private EV-DO wireless network being

4 coupled to a public EV-DO wireless network including a public data location register;

5 transmitting a call connection request signal of the corresponding terminal to the private

6 control station by the private base station upon a call connection request being received in the

7 private base station from a terminal entering the private EV-DO wireless network;

8 requesting session information of the terminal for processing a call of the corresponding

9 terminal to the private data location register by the private control station according to a call

10 connection request signal transmitted from the private base station;

11 determining in the private data location register whether the session information requested

12 from the private control station is registered in a database and determining that the session

13 information of the corresponding terminal is the first private EV-DO wireless network connection

14 call and requesting the session information of the corresponding terminal to a public data location

15 register of the public EV-DO wireless network upon the session information of the corresponding

16 terminal not being registered and receiving the session information of the corresponding terminal

17 from the public data location register;

18 performing private authentication of the corresponding terminal in the private data location

19 register using the session information of the received corresponding terminal and transmitting the

20 session information of the corresponding terminal to the private control station and storing the

21 corresponding session information in the database; and

22 assigning a traffic channel of the corresponding terminal according to the session
23 information of the terminal transmitted from the private data location register and performing data
24 service through the assigned channel with the private control station.

1 11. The method according to claim 10, wherein, in transmitting the call connection
2 request signal to the private control station, upon the private base station transmitting a call
3 connection request signal to the control station, the private base station transmits the call
4 connection request signal and additionally transmits temporary identifier information used to
5 determine whether the corresponding call is a public EV-DO wireless network connection call or
6 a private EV-DO wireless network connection call.

1 12. The method according to claim 10, wherein requesting the session information of
2 the terminal to the private data location register includes analyzing temporary identifier
3 information included in the call connection request signal transmitted from the private base station
4 in the private control station, and selectively routing a corresponding call connection request signal
5 to the private data location register of the public EV-DO wireless network or the private EV-DO
6 wireless network in accordance with a result of the analysis.

1 13. The method according to claim 10, wherein, in receiving the session information
2 of the corresponding terminal from the public data location register, upon the session information
3 requested from the private control station being registered in the database, the private data location

4 register determines that the call connection of the corresponding terminal is not the first call
5 connection but a second or further connection call and provides the control station with the session
6 information of the terminal stored in the database.

1 14. A method comprising:

2 providing a private EV-DO wireless network system coupled to a public EV-DO wireless
3 network system including a public data location register;

4 determining whether a call connection of a corresponding terminal is a private EV-DO
5 wireless network connection call or a public EV-DO wireless network connection call upon a call
6 connection being requested from a terminal entering the private EV-DO wireless network;

7 determining whether session information for the corresponding terminal exists in a
8 database upon a determination that the corresponding call is a private EV-DO wireless network
9 connection call;

10 requesting the session information of the terminal for processing a call of the corresponding
11 terminal to a public data location register located in the public EV-DO wireless network upon a
12 determination that the session information of the corresponding terminal does not exist in the
13 database;

14 performing private authentication of the corresponding terminal using authentication
15 information included in the session information of the received corresponding terminal upon the
16 session information of the corresponding terminal being received from the public data location
17 register; and

18 assigning a traffic channel of the corresponding terminal using session information of the
19 corresponding terminal and performing data service to the terminal through the assigned channel
20 upon the authentication of the terminal being completed after storing the session information of
21 the corresponding terminal in the database.

1 15. The method according to claim 14, wherein, in determining whether the call
2 connection of the corresponding terminal is the private EV-DO wireless network connection call
3 or the public EV-DO wireless network connection call, a temporary identifier for determining
4 whether the corresponding connection call is the private EV-DO wireless network connection call
5 or the public EV-DO wireless network connection call is assigned to the corresponding call
6 connection request signal, and a determination is made as to whether the corresponding connection
7 call is the public EV-DO wireless network connection call or the private EV-DO wireless network
8 connection call according to the assigned temporary identifier upon the call connection being
9 requested from the terminal.

1 16. The method according to claim 15, wherein a connection request signal for the
2 corresponding call is routed to the control station of the public EV-DO wireless network, upon the
3 connection call of the terminal being the public EV-DO wireless network connection call.

1 17. The method according to claim 14, wherein determining whether the session
2 information for the corresponding terminal exists in the database includes determining that the

3 connection call of the corresponding terminal is a second or further connection call and assigning
4 the traffic channel of the corresponding terminal using the session information of the
5 corresponding terminal stored in the database and performing data service to the terminal through
6 the assigned channel upon the session information for the corresponding terminal existing in the
7 database.